Protecting Children at Highest Risk for Influenza Complications

Clinician Outreach and Communication Activity (COCA) Conference Call

September 24, 2013

Office of Public Health Preparedness and Response
Division of Emergency Operations

Be Ready!

September is National Preparedness Month

- ***Would you be ready if there were an emergency?***
- ***Be prepared: throughout September there will be activities across the country to promote emergency preparedness.***
- **http://www.cdc.gov/phpr/preparedness_month.htm**

Objectives

At the conclusion of this session, the participant will be able to accomplish the following:

- Identify chronic medical conditions associated with increased risk of hospitalization or influenza complications in children.
- Review caregiver and physician perceptions and practices about seasonal influenza immunization in children with neurologic and neurodevelopmental conditions.
- Discuss collaborative opportunities for medical subspecialists and primary care pediatricians to promote medical homes for children and increase influenza immunization.
- Describe strategies and key messages to improve influenza prevention and control in children at highest risk for complications.

Continuing Education Disclaimer

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TODAY'S PRESENTER

Seema Jain, MD

Medical Epidemiologist

Epidemiology and Prevention Branch

Influenza Division

Centers for Disease Control and Prevention

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Henry H. Bernstein, DO, MHCM, FAAP

Professor of Pediatrics

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Georgina Peacock, MD, MPH, FAAP

Medical Officer

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TODAY'S PRESENTER

Renee M Turchi, MD, MPH FAAP

Associate Professor of Pediatrics

Drexel University College of Medicine

Influenza Surveillance: What to Know as the Season Starts

Seema Jain, MD

Medical Epidemiologist

Influenza Division, NCIRD, CDC

September 24, 2013

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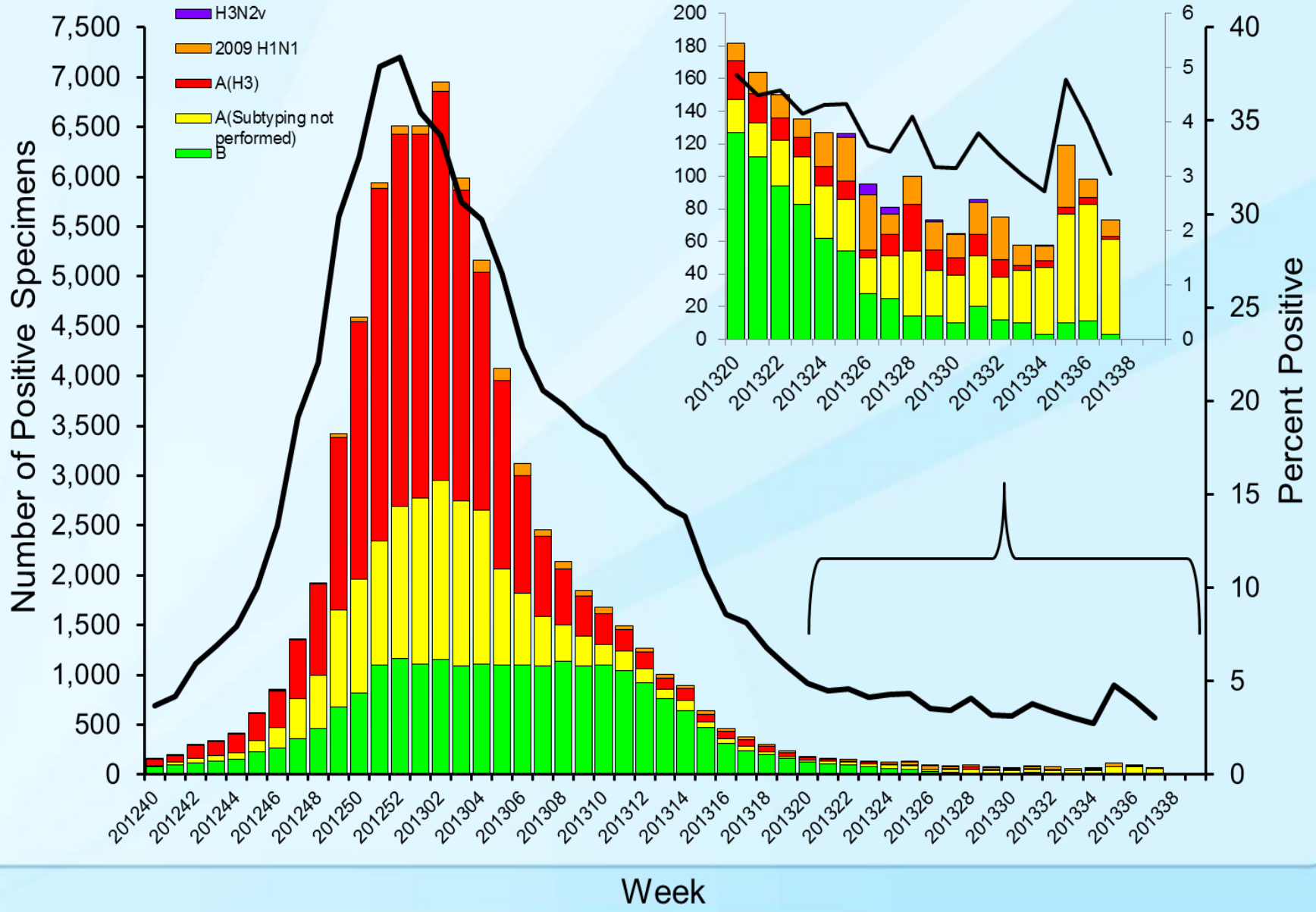
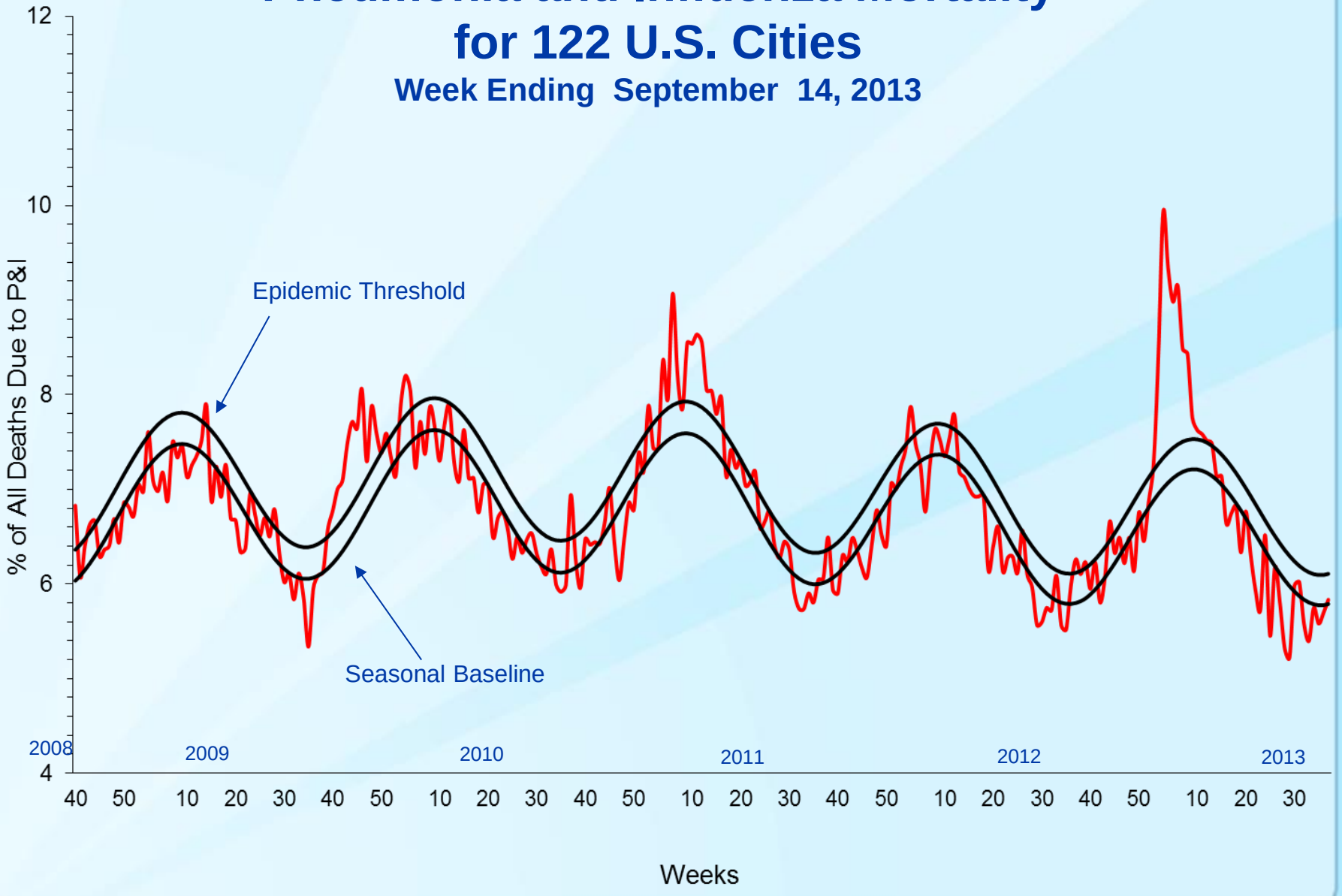
Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2012-13

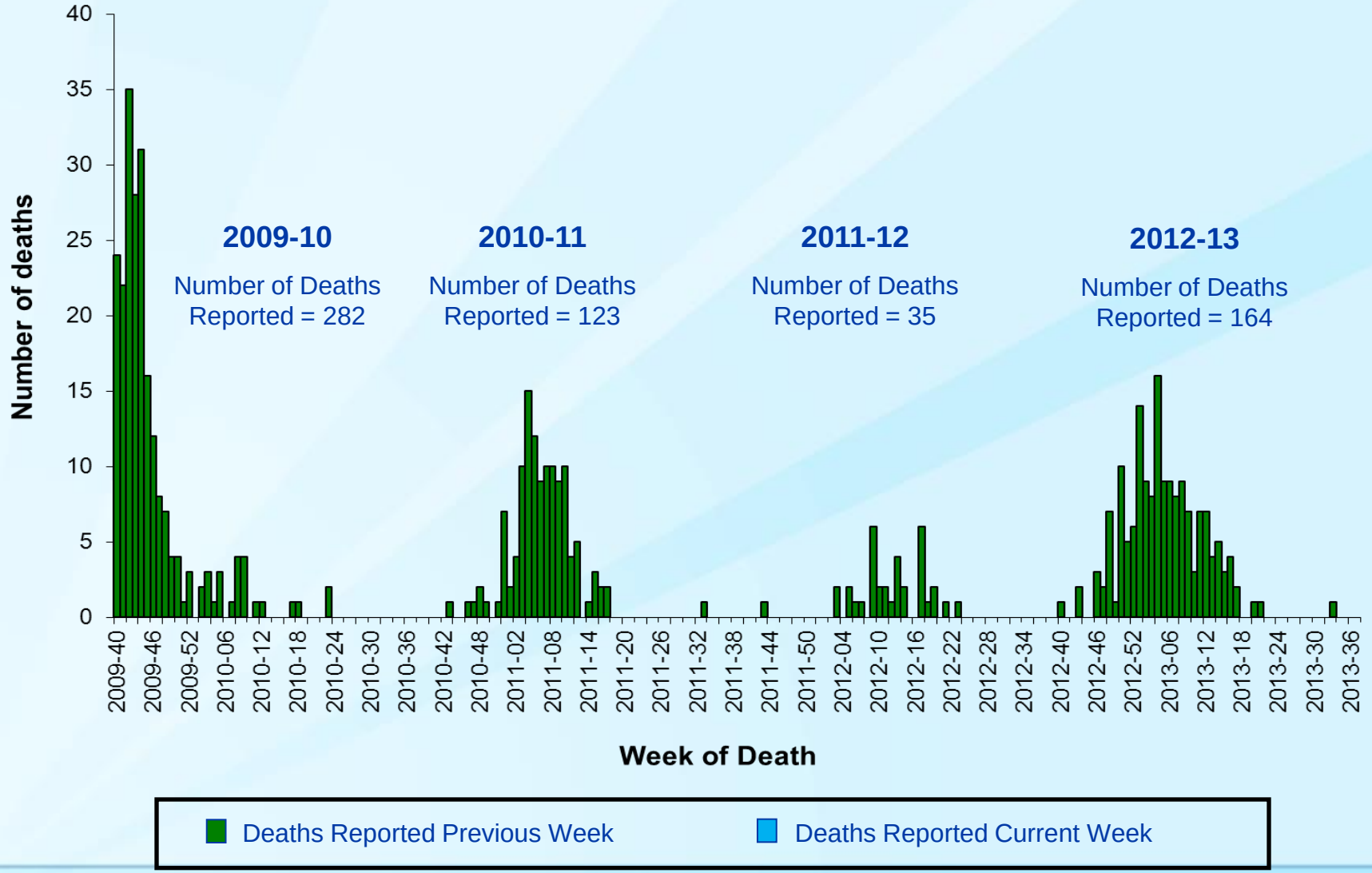


Pneumonia and Influenza Mortality for 122 U.S. Cities

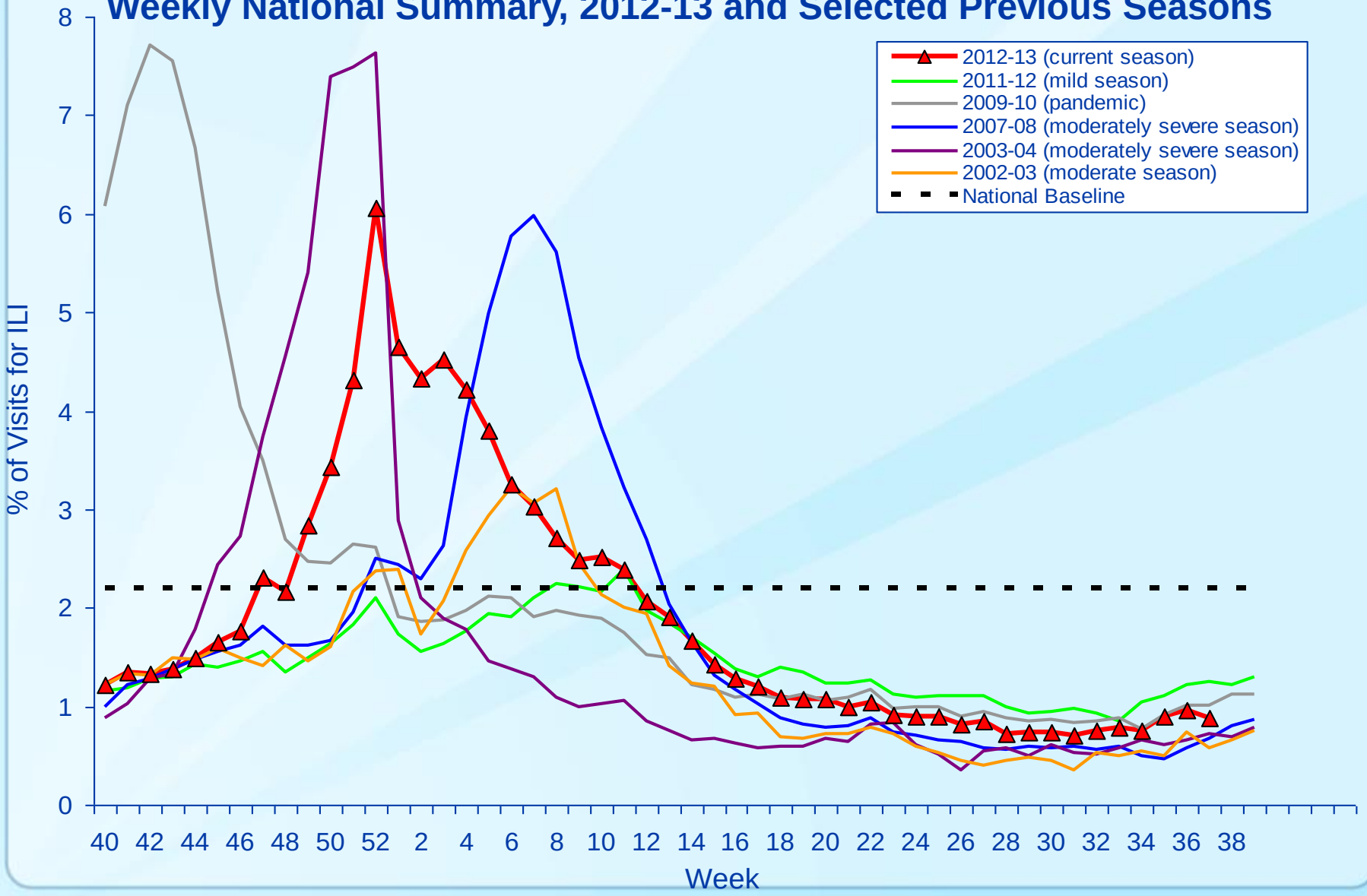
Week Ending September 14, 2013



Number of Influenza-Associated Pediatric Deaths by Week of Death: 2009-10 season to present



Percentage of Visits for Influenza-like Illness (ILI) Reported by the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Weekly National Summary, 2012-13 and Selected Previous Seasons



Influenza Recommendations 2013-2014

Henry H. Bernstein, DO, MHCM FAAP

Associate Editor, Red Book Online
American Academy of Pediatrics
Professor of Pediatrics
Hofstra North Shore-LIJ School of Medicine

HOFSTRA NORTH SHORE-LIJ
SCHOOL of MEDICINE
AT HOFSTRA UNIVERSITY

Key Messages

- **Everyone 6 months and older needs flu vaccine every year**
- **Vaccine strains have changed from last season**
- **Quadrivalent influenza vaccines now available**
- **No vaccine product preferences**
- **Egg allergic children SHOULD be vaccinated**

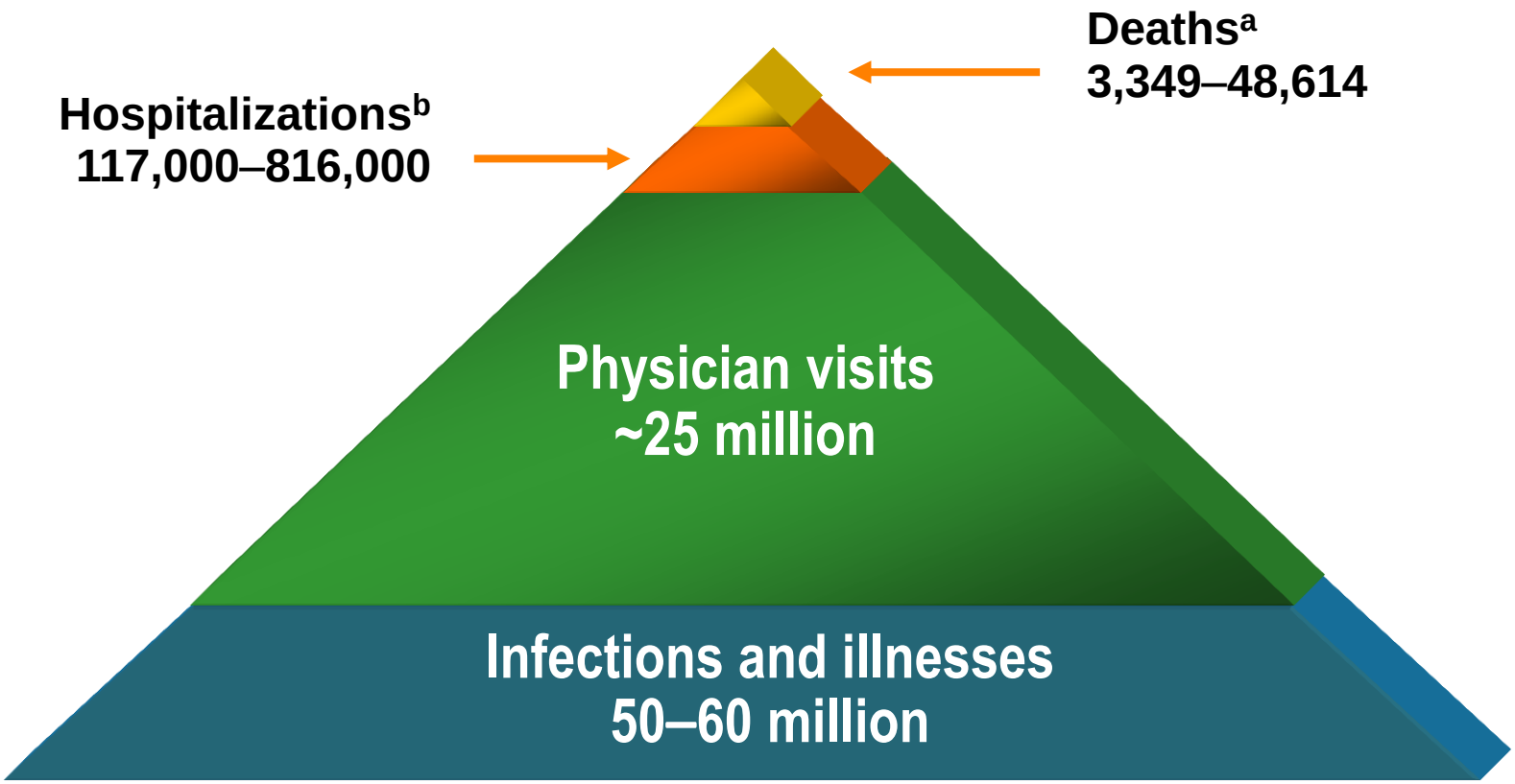
Estimated Vaccine-Preventable Disease Incidence and Deaths in the US

Disease	Annual Cases	Annual Deaths
Influenza[a,b]	61,000,000[c] ('09)	3,349–48,614 ('76– '07)
Pneumococcal disease, invasive (bacteremia & meningitis)[d]	42,000 ('07)	4,500 ('07)
HPV[e] (cervical cancer)	10,520 ('04)	3,900 ('04)
Hepatitis B[f]	4,519 ('07)	719 ('07)
Meningococcal disease[f]	1,077 ('07)	87 ('07)
Hepatitis A[f]	2,979 ('07)	34 ('07)
Varicella[f] (chickenpox)	40,146 ('07)	14 ('07)
Pertussis[f]	10,454 ('07)	9 ('07)

[a] CDC. Updated CDC Estimates of 2009 H1N1 Influenza Cases, Hospitalizations, and Deaths in the US. April 2009 – April 10, 2010. Available at cdc.gov/h1n1flu/estimates)2009_h1n1.htm.
[b] MMWR. 2010: 59 (22): 1057-62. [C] Data based on CDC estimates of 2009 H1N1 cases using statistical modeling.
[d] CDC. ABCs Report: *Streptococcus pneumoniae*, 2007 Available at http://www.cdc.gov/abcs/reports-findings/survreports/spneu04.html.
[e] American Cancer Society. Cancer Facts and Figures 2004. Available at cancer.org/downloads/STT/CAFF_finalPWSecured.pdf.
[f] CDC. *Pink Book*. 12th ed. Available at http://www.cdc.gov/vaccines/pubs/pinkbook/default.htm.

Influenza – How Does it Spread?

Influenza Disease Burden in the US in an Average Year



[a] *MMWR*. 2010: 59(22):1057–1062.

[B] All-cause hospitalization and mortality associated with influenza virus infection.

Thompson WW, et al. *JAMA*. 2003;289:179; Thompson WW, et al. *JAMA*. 2004;292:1333; Couch RB. *Ann Intern Med*. 2000;133:992; Patriarca PA. *JAMA*. 1999;282:75;ACIP. *MMWR*. 2004;53(RR06):1.

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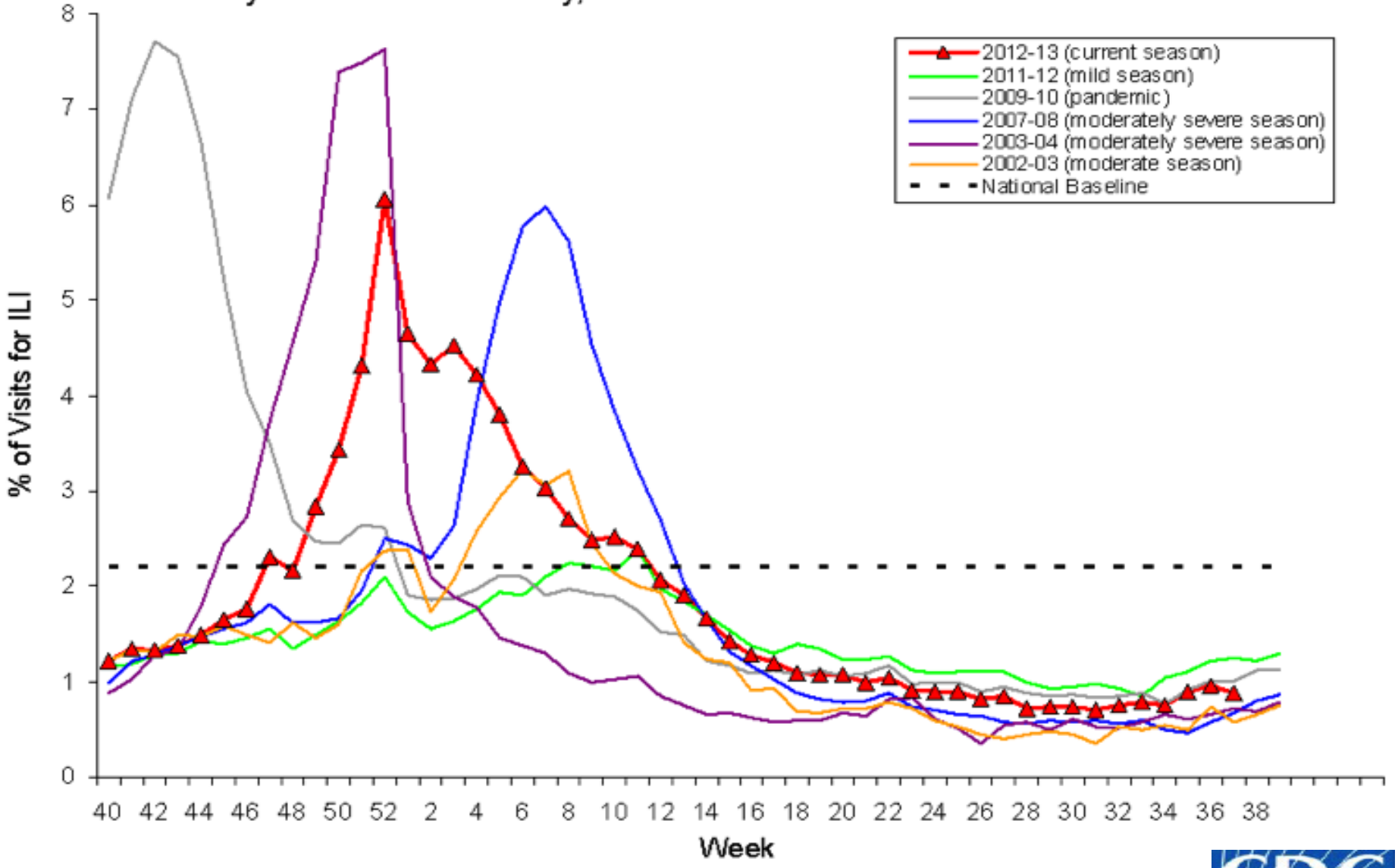
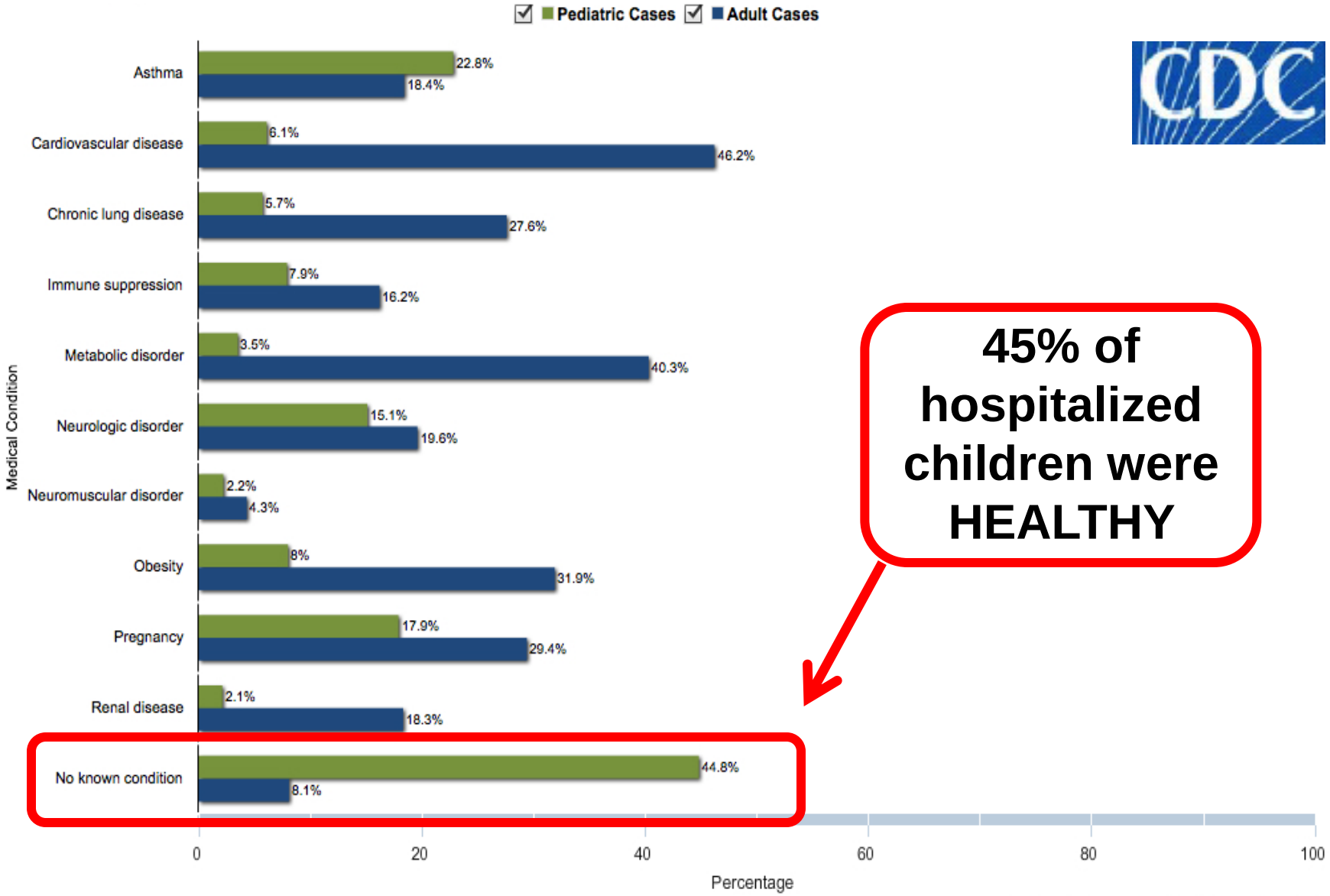
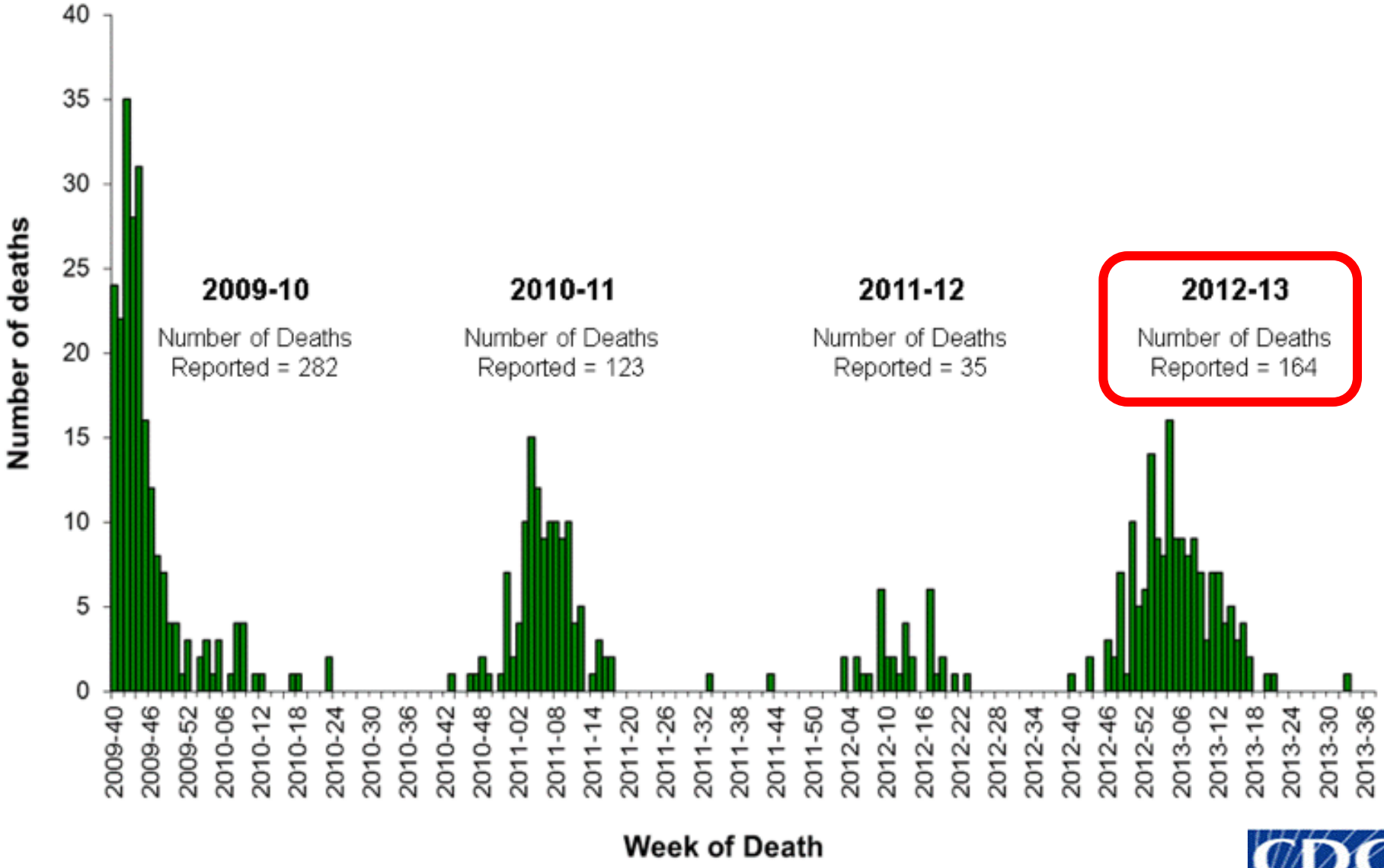


Selected underlying medical conditions in patients hospitalized w/ influenza, 2012-2013



45% of hospitalized children were HEALTHY

Number of Influenza-Associated Pediatric Deaths by Week of Death: 2009-10 season to present



2012-13 US Influenza Season (compared with 2011-2012)

- Influenza A (H3N2) most common strain
- ↑ outpatient visits for ILI
- ↑ rates of hospitalizations
- ↑ deaths from pneumonia and influenza

MMWR. 2012: 62(23);473-479

2013-14 Seasonal Influenza Vaccine Strains

Trivalent

- A/California/7/2009 (H1N1)pdm09-like virus
- A/Texas/50/2012 (H3N2) virus*
- B/Massachusetts/2/2012-like virus (from last year's B/Yamagata lineage of viruses)*

Quadrivalent

- Adds B/Brisbane/60/2008-like virus (B/Victoria lineage)*

***2-3 strains different from last season**

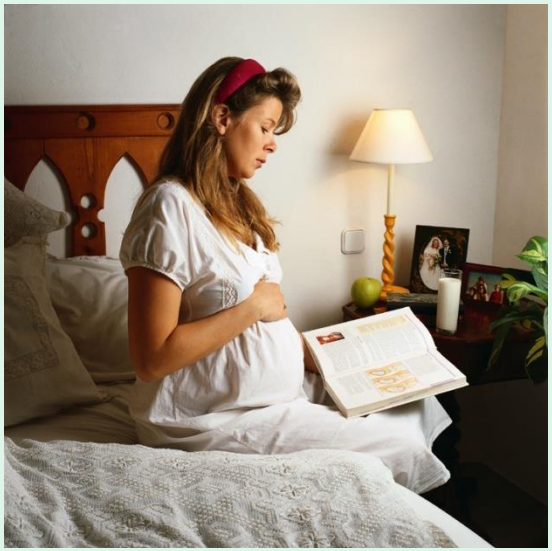
All people 6 months of age and older should get flu vaccine every year

Special Populations to Reach

Children

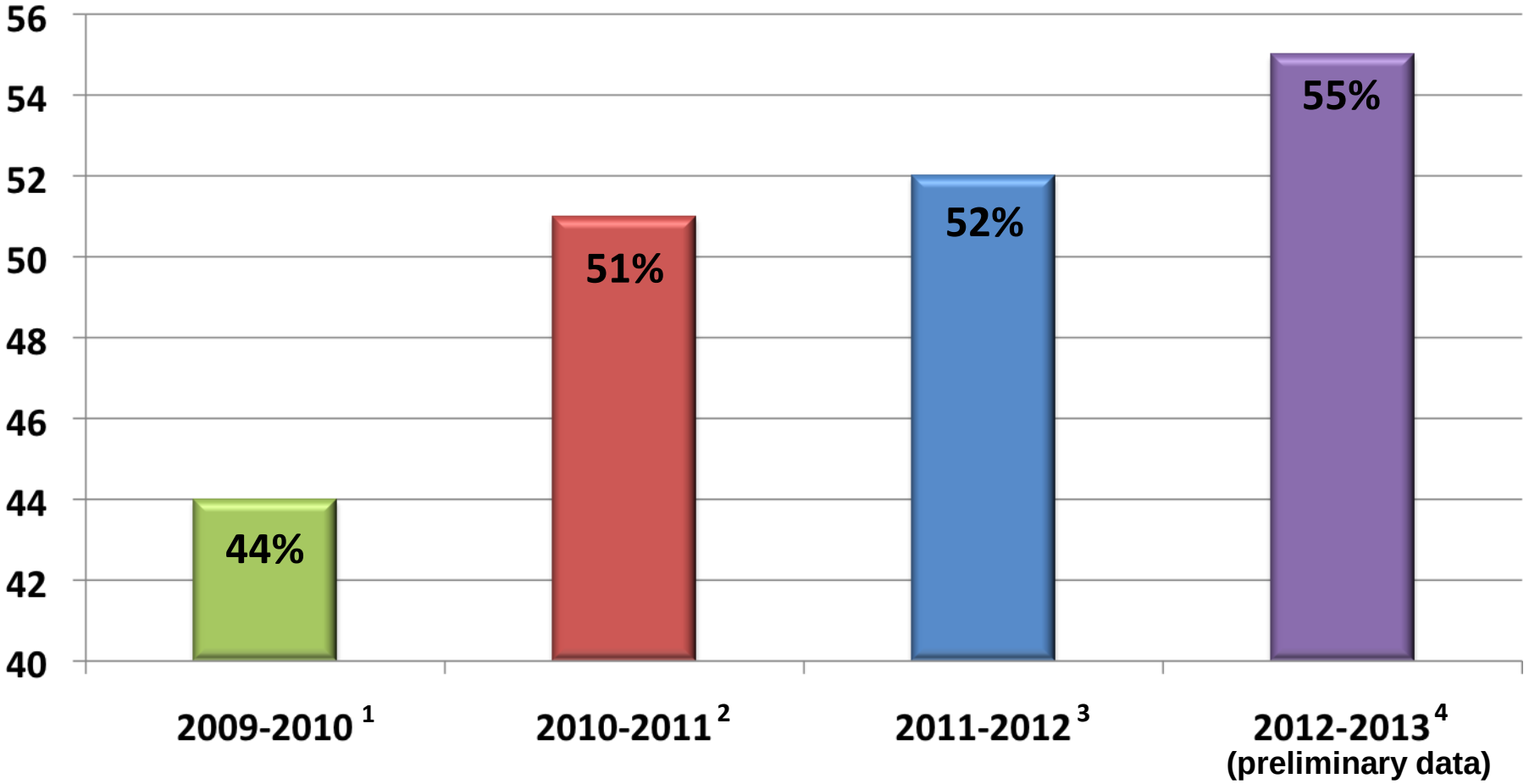
Health Care Personnel

Household Contacts of High Risk Children and All Children <5



Pregnant Women

Influenza Vaccine Coverage for Children 6 Months to 17 Years



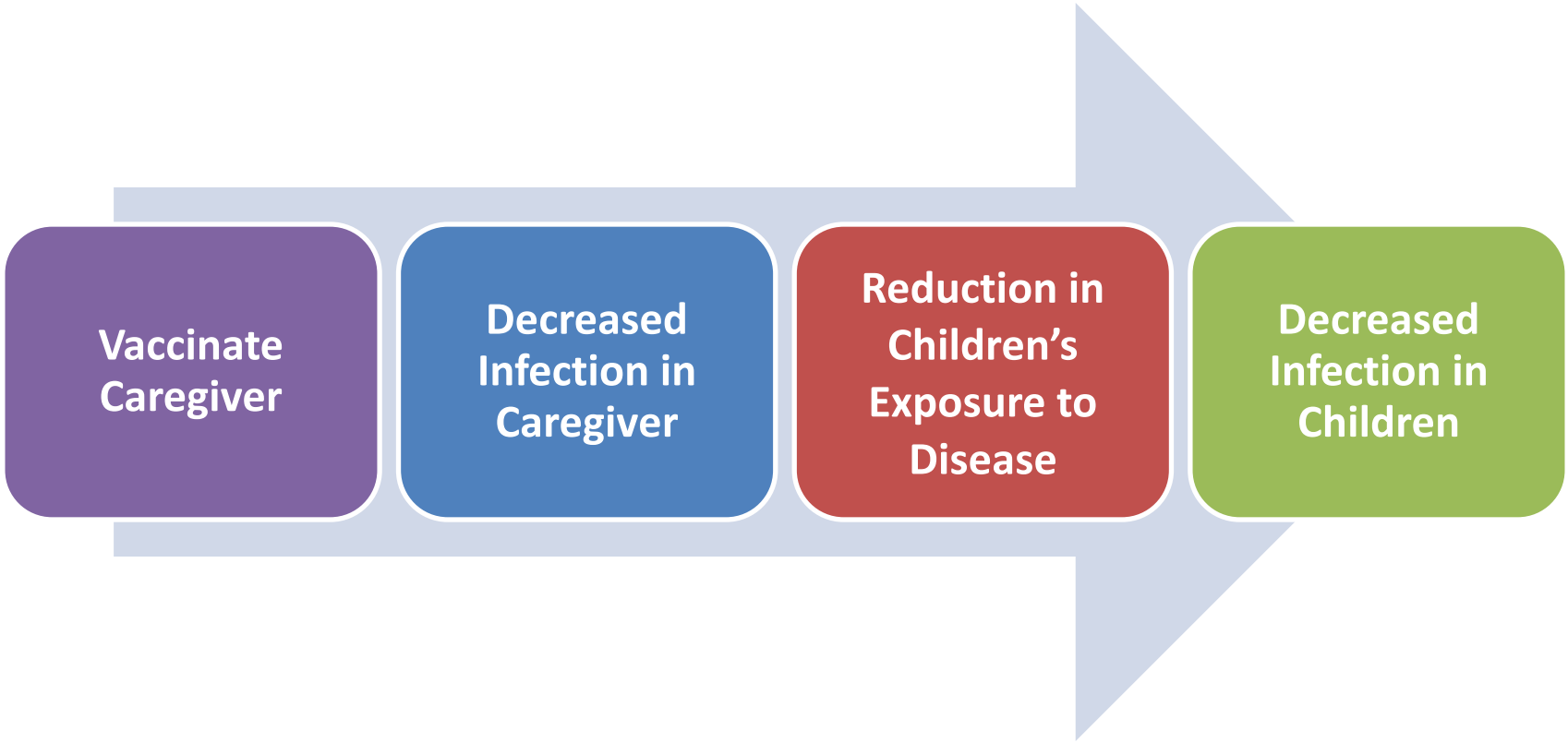
[1] BRFSS and National 2009 H1N1 Flu Survey estimates, 2009–10. Online at: http://www.cdc.gov/flu/professionals/vaccination/coverage_0910estimates.htm.
[2] BRFSS and NIS estimates, 2010–11. Online at: http://www.cdc.gov/flu/professionals/vaccination/coverage_1011estimates.htm
[3]NIS estimates, 2011-2012. Online at http://www.cdc.gov/flu/professionals/vaccination/coverage_1112estimates.htm:
[4]Early NIS estimates, 2012-2013. Online at http://www.cdc.gov/flu/pdf/fluvaxview/kennedy_2013_summit_slides2.pdf

Vaccination Strategies

- **Start giving vaccine as soon as available**
- **Continue giving vaccine into May**
- **Make vaccine easily accessible for all children:**
  - **Create influenza clinics**
  - **Extend office hours during peak vaccination periods**
  - **Administer vaccine during both well and sick visits**
  - **Consider immunizing parents, adult caregivers, and siblings**
  - **Work with other institutions or alternative care sites**

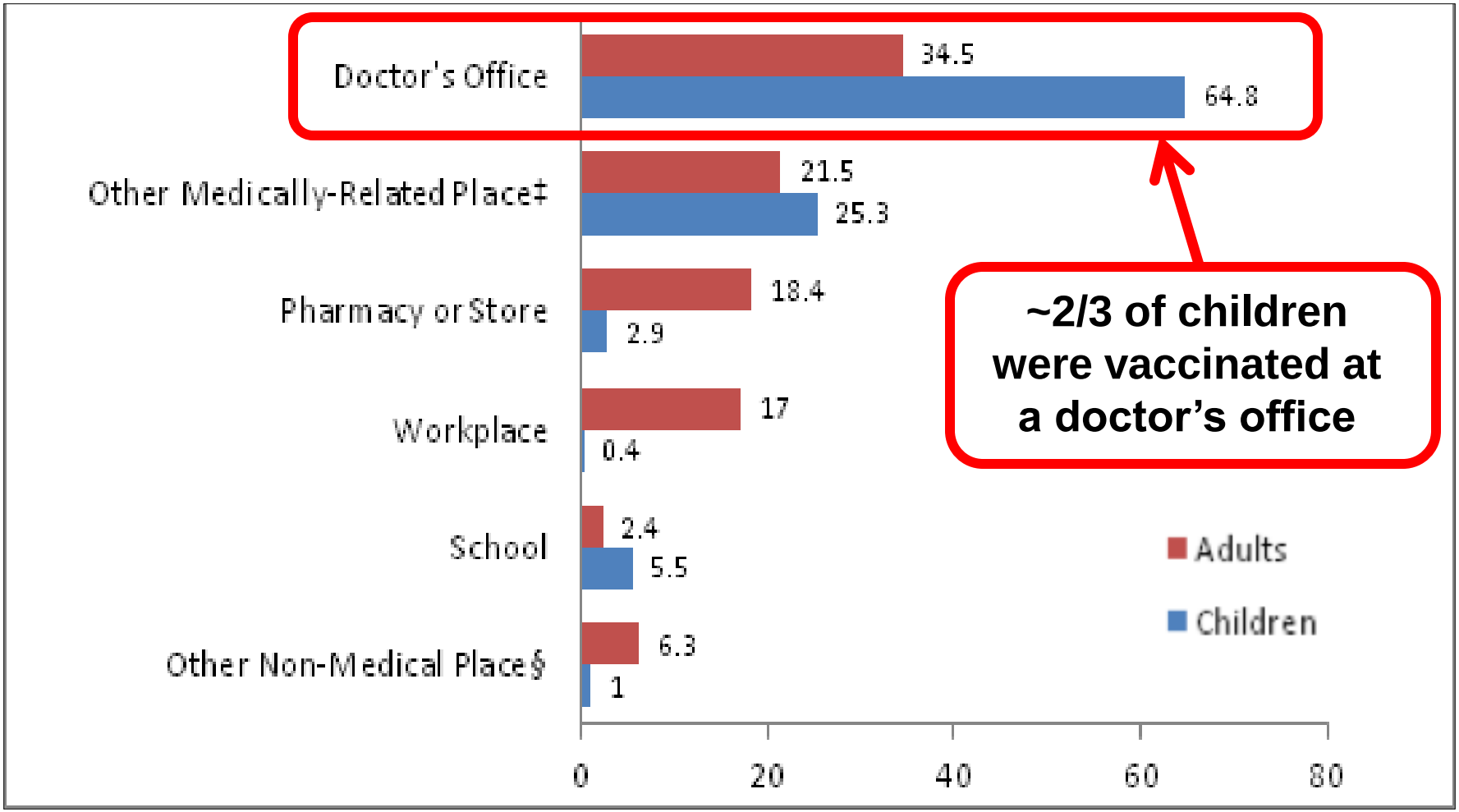
Cocooning Should Work!

Vaccination strategy which aims to protect children from disease by immunizing caregivers:



Place of Vaccination for Children and Adults

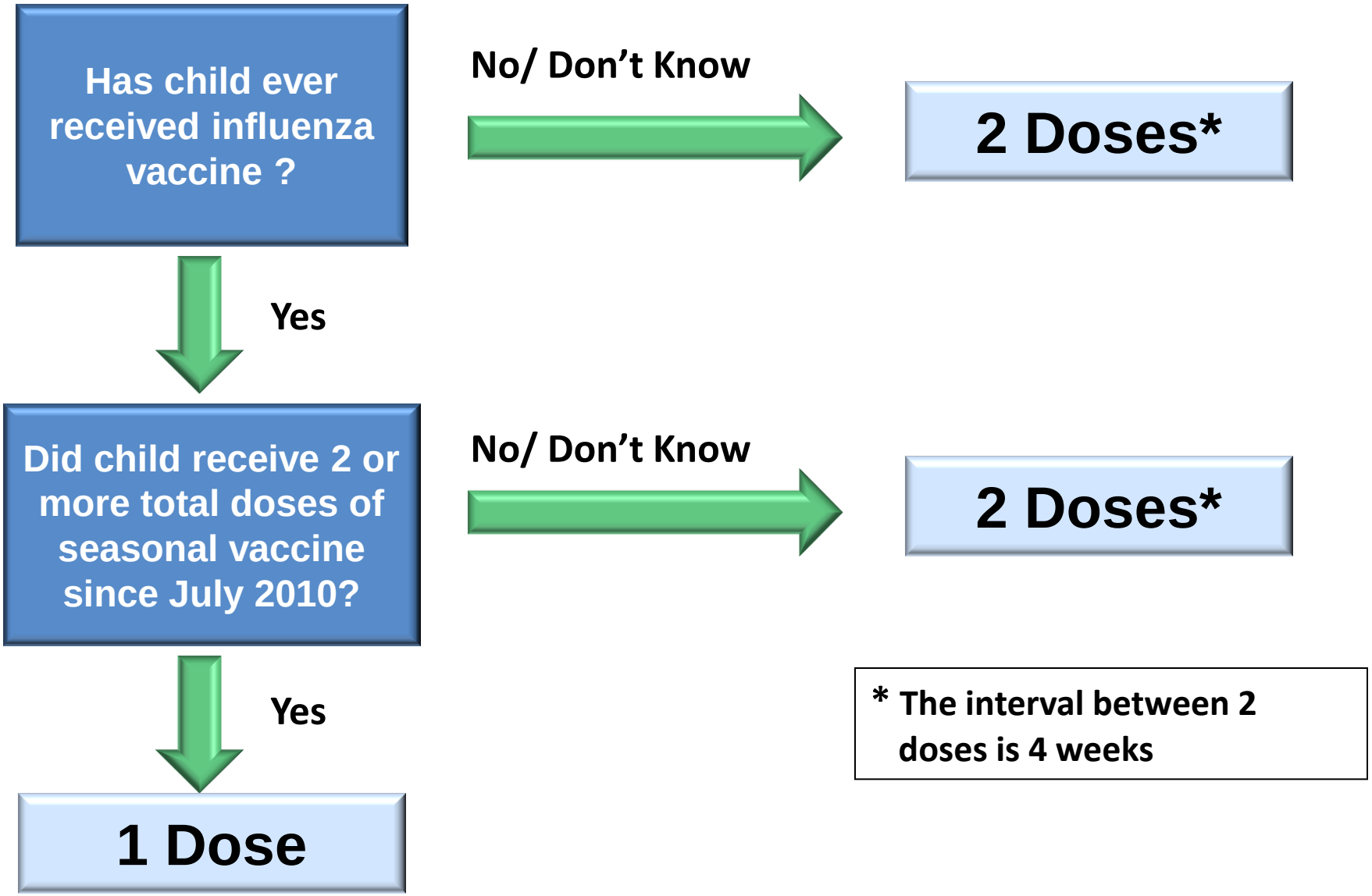
Early 2012-13 season, National Flu Survey



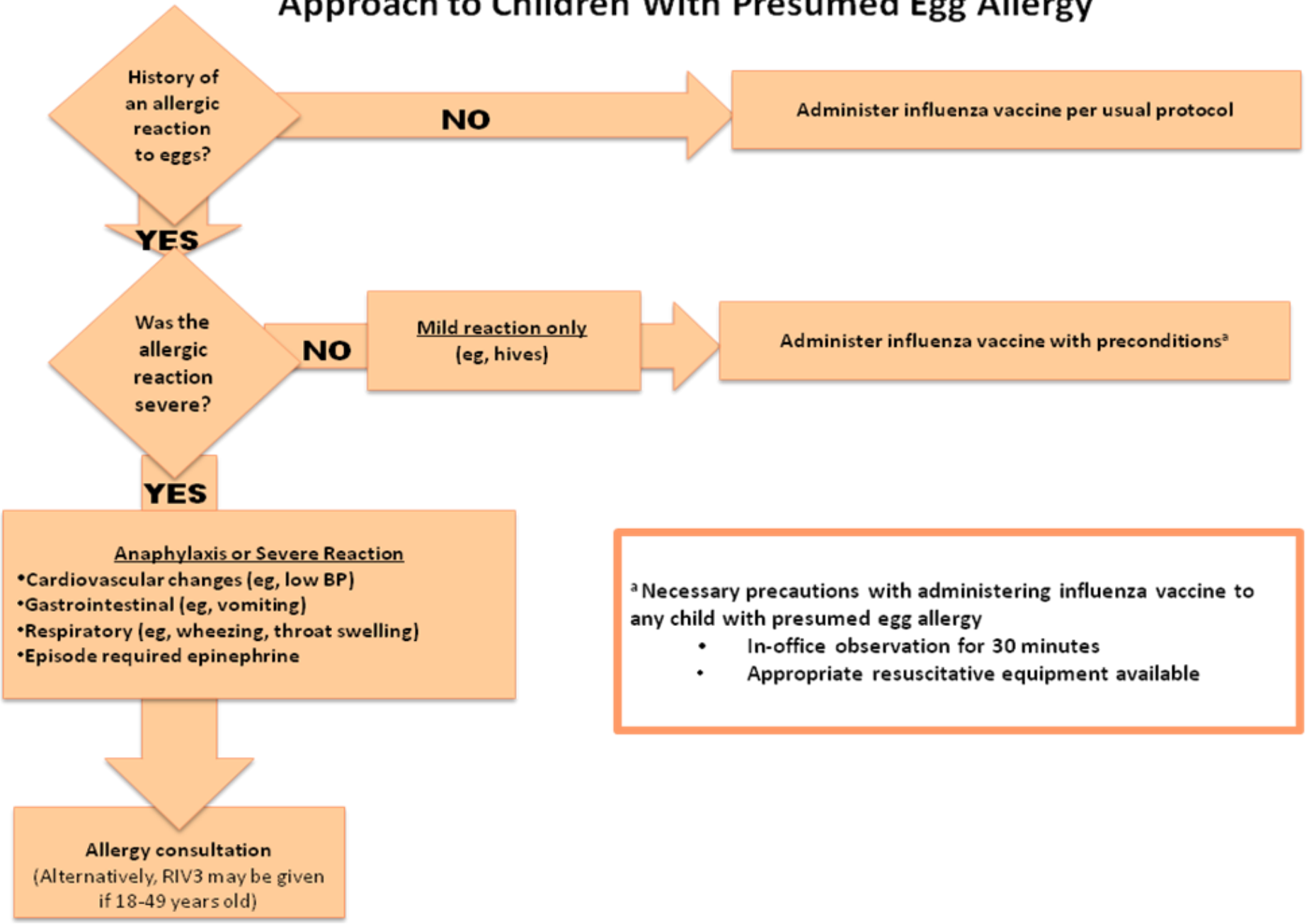
‡ includes hospitals, clinics or health centers, local health departments, and other.

Source: CDC. Available online at: http://www.cdc.gov/flu/pdf/fluvaxview/nifs-estimates-nov2012.pdf

Number of Seasonal Influenza Doses for Children 6 months through 8 years of Age



Approach to Children With Presumed Egg Allergy



[a] Necessary precautions with administering influenza vaccine to any child with presumed egg allergy

- In-office observation for 30 minutes
- Appropriate resuscitative equipment available

	Antiviral Medications		
Expected 2013–2014 Viruses	**Adamantanes** (Amantadine/Rimantadine)	**Oseltamivir** (Tamiflu)	**Zanamivir** (Relenza)
Seasonal influenza A (H1N1) virus (derived from 2009 pandemic)	**Resistant**	**Susceptible**	**Susceptible**
Seasonal influenza A (H3N2) virus	**Resistant**	**Susceptible**	**Susceptible**
Seasonal influenza B virus (either lineage)	**Resistant**	**Susceptible**	**Susceptible**

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Vaccination Practices of Children with Neurologic and Neurodevelopmental Conditions, 2011-2012 Influenza Season

Georgina Peacock, MD, MPH, FAAP

Medical Officer

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Centers for Disease Control and Prevention

About this Study

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Weekly / Vol. 62 / No. 36
September 13, 2013

Influenza Vaccination Practices of Physicians and Caregivers of Children with Neurologic and Neurodevelopmental Conditions — United States, 2011–12 Influenza Season

Cognitive dysfunction, seizure disorders (epilepsy), and other neurologic disorders are conditions associated with a high risk for complications of influenza virus infection (*1–3*). This risk was observed during the 2009 influenza pandemic; among 336 pediatric deaths, 146 occurred in children with underlying neurologic disorders, most commonly intellectual disability

specifically children with neurologic conditions. Physicians were recruited through American Academy of Pediatrics specialty listservs, including the Council on Children with Disabilities, the Committee on Practice and Ambulatory Medicine, and the Section on Neurology. An online survey was available from March 7 through May 15, 2011. This survey collected basic

To download the *MMWR* Report visit: www.cdc.gov/mmwr

Methods

Parents and doctors were surveyed to find out if children with neurologic or neurodevelopmental conditions were being vaccinated for the flu

- Researchers sent an on-line survey to parents or other caregivers on the Family Voices email list
- Researchers also sent an on-line survey to healthcare providers, using the American Academy of Pediatrics specialty email lists

Parents were also asked where they receive information about vaccines

Results

- About 1 in 2 children with neurologic and neurodevelopmental conditions were vaccinated against the flu
- About 3 out of 4 parents reported that their child's health provider was the main source of information about vaccines
- Health providers who regularly cared for children with neurologic and neurodevelopmental conditions were mostly familiar with high-risk conditions for flu illness
- However, pediatricians did not recognize that intellectual disability is also a high-risk condition for flu

Conclusions

- Children with neurologic and neurodevelopmental conditions are no more likely to be vaccinated for flu than the general pediatric population
- Outreach to primary care providers and subspecialists about flu vaccination might help reduce morbidity and mortality in these high-risk children

Protecting Children at Highest Risk for Influenza Complications

Renee Turchi, MD, MPH, FAAP
September 24, 2013

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Overview

- Identify strategies for increasing influenza vaccination in the most vulnerable children (CYSHCN)
- Identify partnership opportunities for primary care teams, specialists and families
- Resources for families and providers caring for CYSHCN

Who are children and youth with special health care needs (CYSHCN)?

Children who have or are at increased risk for chronic physical, developmental, behavioral, or emotional conditions and who also require health and related services of a type or amount beyond that required by children generally.

MCHB, 1998

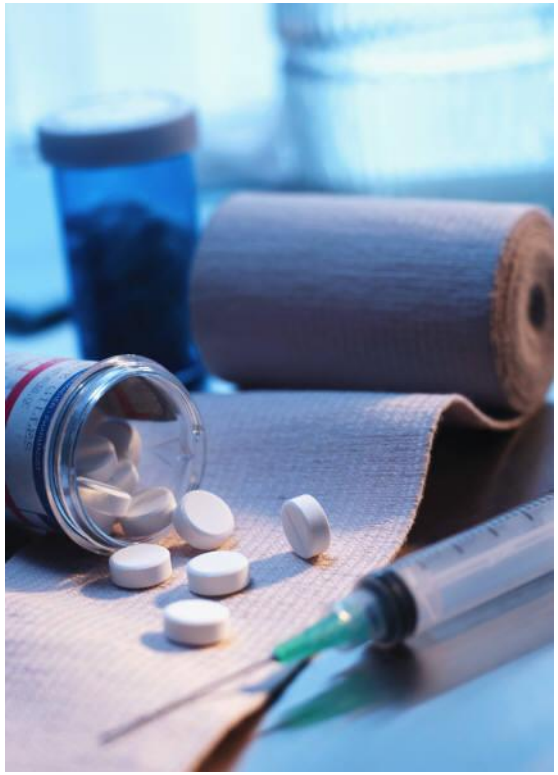
Who gets special consideration?

- Neurologic conditions
- Respiratory condition
- Cardiac disorders
- Endocrine and GI issues
- Metabolic condition
- Genetic syndromes

Why special consideration?

- CYSHCN have higher rates of morbidity and mortality than typically developing children

- 2009 Pandemic H1N1-of 227 children who died of flu related complication-64% had neurologic condition



Blanton L, et al. Pediatrics 2012;130(3):390-396

Role of Medical Home

- Standard of care for all children
- Family and patient centered
- Foster improved communication
- Partnership with families, specialists and community agencies
- Role of the team

Medical Home- Joint Statement Core Principles

- Personal Physician
- Physician-directed medical practice
- Whole person orientation
- Care coordination across multiple systems
- Quality and safety
- Enhanced access
- Appropriate payment for services
  - AAP, AAFP, ACP, AOA, March 2007

Evidence Supporting Medical Home

- Improves;
  - Overall patient/family satisfaction
  - Quality of care
  - Health care utilization
  - Medical errors (fewer)
  - Coordination of care
  - Efficiency and access to care
  - Racial and ethnic disparities in care

Schoen et al. 2007; Homer et al. 2008;2011
Cooley et al. 2009; McAllister et. al. 2009;
.2012

How can we be better prepared?

Registries as Tool

- Accepted as standard in quality improvement
- Electronic vs. paper copies
- Contact families
- Work with specialists
- Collaborate with community partners

Practice Preparation

- Strategy for all patients
- Utilize registry/EHR to track CYSHCN
- Identify team
- Practice wide education
- QI activity

Patient Registry

Pt ID	DOB	Insurance	Sev. Score	Home-care	Diagnosis	Status	HIPAA
1	4/3/1997	Public	2		s/p MVA	Active-temp	Yes
2	2/4/2005	Public	3S	DME	Preemie, BPD, DHS involvement	Active	Yes
3	6/8/2003	Both	4	DME, RN	Encephalopathy, G-tube	Inactive-Deceased 8/2/05	No

Care Plans Components

- Information included on the care plan:
  - Diagnoses
  - Surgeries
  - Relevant pmh
  - Medications
  - Allergies
  - Home Nursing

-PT, OT, & SLP

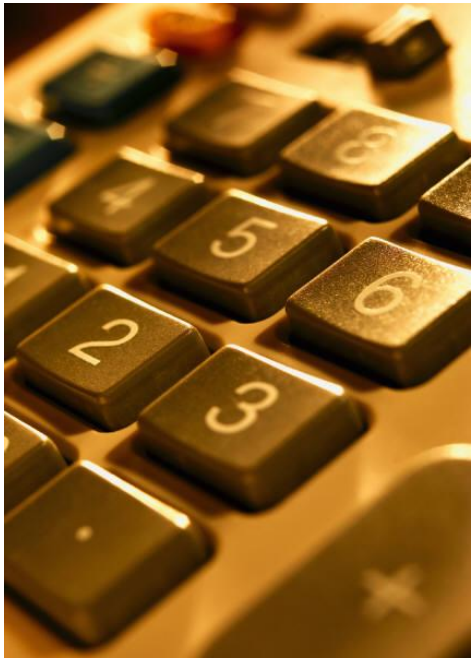
- DME
- Insurance info/coordinator
- Alternative therapies
- Services and providers
- Child's needs and strengths

Care Plans

- Create a plan
- Update and maintain
- Specialist and community partners
- Sample care plans
  - Emergency Information form, AAP website
- Family input
- Multiple copies

Working with Specialists

- Most CYSHCN have need for specialty care
- Timing of appointments
- Care plans
- Communication is essential
- Hospital discharge opportunities
- Documentation and registries



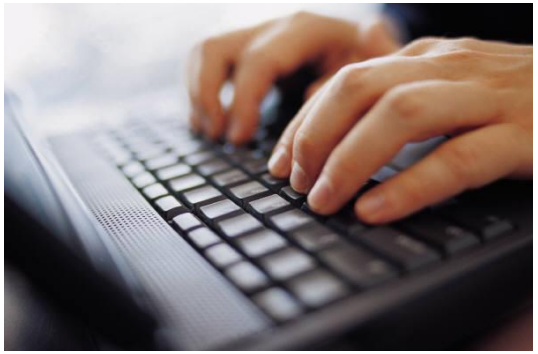
Families are key members of the team!

Tools for Fostering Family Centered Care and Influenza Vaccination

- Care Plans
- Staff meetings
- Resource Nights
- Parent Partners
- Advertisements
- Newsletters
- Family Faculty/Advisory Councils
- Community Liaison

Educate Families on Influenza Vaccination

- Discuss at visits 3-4 months prior to immunizations



- Utilize electronic communication
  - Social media (FB, Twitter)
  - Patient portal
  - Email notification
  - Referrals and appointment requests (opportunities)
- Waiting room information (TV, bulletin boards, flyers)
- EHR prompts and reminders in visits

Partnering with Community to Foster Vaccination

- Home nursing agencies
- Medical Daycare
- School
- Child care centers
- Insurance case managers
- Community partners

Resources for Families and Providers

- Family Voices
  - www.familyvoices.org
  - Identify your local Family 2 Family Health Information Center
- Families Fighting Flu
  - www.familiesfightingflu.org
- CDC
  - www.cdc.gov/flu/

Centers for Disease Control and Prevention
Atlanta, Georgia

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Those who participate in the COCA Conference Calls and who wish to receive CE credit/contact hours and will complete the online evaluation by **October 25, 2013** will use the course code **EC1648**. Those who wish to receive CE credits/contact hours and will complete the online evaluation between October **26, 2013** and September **23, 2014** will use course code **WD1648**. CE certificates can be printed immediately upon completion of your online evaluation. A cumulative transcript of all CDC/ATSDR CE's obtained through the CDC Training & Continuing Education Online System will be maintained for each user.

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